

AMENDMENTS TO THE CLAIMS

1. (Canceled)
2. (Canceled)
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19. (Canceled)
20. (Canceled)
21. (Canceled)
22. (Canceled)

23. (Currently Amended) A method for modulating endoreduplication in a plant or part thereof, which comprises ~~modifying expression or activity of E2Fa~~ transforming a plant cell with a native or heterologous coding sequence for a plant E2F protein operably linked to a promoter which functions in a plant cell, and regenerating a plant therefrom, wherein the plant E2F protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle and wherein the transformed, regenerated plant exhibits an increase in endoreduplication compared to a corresponding wild type plant.

24. (Currently Amended) The method of Claim 23 ~~further comprising further transforming the plant cell with a native or heterologous coding sequence for a plant modifying expression or activity of DPa~~ DP protein operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom, wherein the plant DP protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle and wherein the transformed, regenerated plant exhibits an increase in endoreduplication compared to a corresponding wild type plant.

25. (Currently Amended) The method of claim 23 wherein ~~E2Fa~~ the plant E2F protein is overexpressed in ~~said the~~ the plant or plant part.

26. (Currently Amended) The method of claim 24 wherein the plant E2F and DP proteins ~~E2Fa and DPa~~ are overexpressed in ~~said the~~ the plant or plant part.

27. (Currently Amended) A plant having a plant cell which ~~overexpresses stably~~ expresses the product of an ~~E2Fa~~ gene a plant E2F transgene wherein the expressed E2F

protein product forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.

28. (Currently Amended) The plant ~~cell~~ of claim 27 having a plant cell which further ~~overexpresses~~ expresses a product of a ~~DP α -gene~~ plant DP transgene wherein the expressed DP protein product forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.

29. (Currently Amended) The plant ~~cell~~ of claim 27 wherein the ~~E2F α -gene~~ plant E2F transgene is heterologous to the plant ~~cell~~.

30. (Currently Amended) The plant of claim 27 wherein the ~~E2F α -gene~~ plant EF2 transgene is native to the plant ~~cell~~.

31. (Currently Amended) The plant ~~cell~~ of claim 28 selected from the group consisting of a plant having a plant cell which ~~overexpresses~~ expresses the products of a native ~~E2F α - EF2~~ gene and a native ~~DP α~~ DP gene, a plant having a plant cell which expresses the products of a heterologous ~~E2F α EF2~~ gene and a heterologous ~~DP α~~ DP gene, a plant having a plant cell which expresses the product of a heterologous ~~E2F α EF2~~ gene and which ~~overexpresses~~ expresses the product of a native ~~DP α~~ DP gene, and a plant having a plant cell which ~~overexpresses~~ expresses the product of a native ~~E2F α EF2~~ gene and which expresses the product of a heterologous ~~DP α -~~ DP gene.

32. (Cancel)

33. (Currently Amended) The plant or a part thereof according to ~~Claim 32~~ any one of claims 27-31 which exhibits modulated endoreduplication when compared to a corresponding wild type plant.

34. (Currently Amended) ~~Progeny~~ Transgenic progeny of the plant of ~~claim 32~~ any one of claims 27-31 wherein the transgenic progeny comprises the transgene of any one of claims 27-31.

35. (Currently Amended) ~~Progeny~~ Transgenic progeny of the plant of claim 33 wherein the transgenic progeny comprise the transgene of any one of claims 27-31.

36. (Currently Amended) Plant material obtained from the ~~plant~~ transgenic progeny of claim ~~[[32]]~~ 34.

37. (Previously Presented) Plant material obtained from the plant of claim 33.

38. (Currently Amended) The plant material of claim ~~[[32]]~~ 36 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.

39. (Currently Amended) The plant material of claim ~~[[33]]~~ 37 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.

Please add the following claims:

40. (New) The method according to claim 26, wherein said plant cell has an increased ploidy level of 64C or 128C compared to a corresponding wild type plant.

41. (New) A transgenic plant which stably expresses an *E2F* transgene or both an *E2F* and *DP* transgene, wherein said transgenic plant cell has an increased ploidy level of 64C or 128C compared to a wild type plant.

42. (New) A method for quadrupling DNA content of a transgenic plant compared to the DNA content of a corresponding wild-type plant, said method comprising introducing an *E2F* transgene or both an *E2F* and *DP* transgene into the plant, wherein the *E2F* and *DP* transgene are operably linked to a promoter which functions in a plant cell and wherein the product of the introduced transgene is stably expressed within the plant cell.

43. (New) A transgenic plant which stably expresses an *E2F* transgene or which express both an *E2F* and *DP* transgene wherein said transgenic plant has quadruple the content of DNA compared to the DNA content of a corresponding wild-type plant .

44. (New) A transgenic plant which stably expresses an *E2F* transgene or which express both an *E2F* and *DP* transgene wherein said transgenic plant has modulated endoreduplication relative to a corresponding wild type plant.

45. (New) A method for modulating endoreduplication in a plant or part thereof which comprises:

(a) transforming a first plant cell with a native or heterologous coding sequence for a plant *E2F* protein wherein the coding sequence is operably linked to a promoter which functions in a plant cell, and regenerating a plant therefrom;

(b) transforming a second plant cell with a native or heterologous coding sequence for a plant *DP* protein, wherein the coding sequence is operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom;

(c) crossing the plant of (a) with the plant of (b); and

(d) selecting progeny of the cross of (c) that exhibit modulated endoreduplication.

46. (New) The method of claim 23 comprising further transforming a cell from the transformed, regenerated plant with a native or heterologous coding sequence for a plant DP protein operably linked to a promoter which functions in a plant cell and regenerating a plant therefrom, wherein the DP protein forms part of an E2F/DP heterodimeric transcription factor involved in the regulation of G1/S transition of the cell cycle.